

Attachment A to Resolution No. R12-XXX

Proposed Amendment to the Water Quality Control Plan – Los Angeles Region to revise the Santa Monica Bay Beaches Bacteria TMDL

Proposed for adoption by the California Regional Water Quality Control Board, Los Angeles Region on June 7, 2012.

Amendments:

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List of Figures, Tables and Inserts

Replace Tables 7-4.1, 7-4.2a, 7-4.2b, 7-4.3, 7-4.4, 7-4.5, 7-4.6 and 7-4.7 with the following:

Chapter 7. Total Maximum Daily Loads (TMDLs)

Tables

7-4 Santa Monica Bay Beaches Bacteria TMDL

7-4.1. Santa Monica Bay Beaches Bacteria TMDL: Elements

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Chapter 7. Total Maximum Daily Loads (TMDLs) Summaries Section 7-4 (Santa Monica Bay Beaches Bacteria TMDL)

This TMDL was adopted by:

The Regional Water Quality Control Board on January 24, 2002 (Dry Weather elements) and December 12, 2002 (Wet Weather elements).

This TMDL was approved by:

The State Water Resources Control Board on September 19, 2002 (Dry Weather elements) and March 19, 2003 (Wet Weather elements).

The Office of Administrative Law on December 9, 2002 (Dry Weather elements) and May 20, 2003 (Wet Weather elements).

The U.S. Environmental Protection Agency on June 19, 2003.

This TMDL was revised by:

The Regional Water Quality Control Board on June 7, 2012.

This revised TMDL was approved by:

The State Water Resources Control Board on [insert date].

The Office of Administrative Law on [insert date].

The U.S. Environmental Protection Agency on [insert date].

The following table ~~summarizes~~ includes the ~~key~~ elements of this TMDL.

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Table 7-4.1. Santa Monica Bay Beaches Bacteria TMDL (~~Dry Weather Only~~): Elements

Element	Key Findings and Regulatory Provisions
<i>Problem Statement</i>	Elevated bacterial indicator densities are causing impairment of the water contact recreation (REC-1) beneficial use at many Santa Monica Bay (SMB) beaches. Swimming in waters with elevated bacterial indicator densities has long been associated with adverse health effects. Specifically, local and national epidemiological studies compel the conclusion that there is a causal relationship between adverse health effects and recreational water quality, as measured by bacterial indicator densities.

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<p>Numeric Target (Interpretation of the numeric water quality objective, used to calculate the waste load allocations)</p>	<p>The TMDL has a multi-part numeric target based on the bacteriological water quality objectives for marine water to protect the water contact recreation use. These targets are the most appropriate indicators of public health risk in recreational waters.</p> <p>These bacteriological objectives are set forth in Chapter 3 of the Basin Plan, as amended by the Regional Board on October 25, 2001. The objectives are based on four bacterial indicators and include both geometric mean limits and single sample limits. The Basin Plan objectives <u>that serve as numeric targets for this TMDL</u> are as follows:</p> <ol style="list-style-type: none">1. <u>Rolling 30-day</u> Geometric Mean Limits<ol style="list-style-type: none">a. Total coliform density shall not exceed 1,000/100 ml.b. Fecal coliform density shall not exceed 200/100 ml.c. Enterococcus density shall not exceed 35/100 ml.2. <u>Single Sample Limits</u><ol style="list-style-type: none">a. Total coliform density shall not exceed 10,000/100 ml.b. Fecal coliform density shall not exceed 400/100 ml.c. Enterococcus density shall not exceed 104/100 ml.d. Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1. <p><u>These objectives are generally based on an acceptable health risk for marine recreational waters of 19 illnesses per 1,000 exposed individuals as set by the US EPA (US EPA, 1986).</u> The targets apply throughout the year. The compliance point for the targets is the wave wash¹, where there is a freshwater outlet (i.e., <u>municipal separate storm sewer system outfall storm drain</u> or creek) to the beach, or at ankle depth at beaches without a freshwater outlet.</p> <p><u>In this TMDL, implementation of the above bacteriological objectives and the associated TMDL numeric targets is achieved using a 'reference system/anti-degradation approach' as set forth in Chapter 3. As required by the CWA and Cal. Water Code, Basin Plans include beneficial uses of waters, water quality objectives to protect those uses, an anti-degradation policy, collectively referred to as water quality standards, and a program of implementation for water quality objectives. This TMDL and its associated waste load allocations, which shall be incorporated into relevant permits, is a program of implementation for the Region's bacteriological objectives at Santa Monica Bay beaches.</u></p> <p>The geometric mean targets may not be exceeded at any time. The rolling 30 day geometric mean will be calculated on each day. For purposes of this TMDL, the geometric means shall be calculated weekly as a rolling geometric mean using 5 or more samples, for six week periods starting all calculation weeks on Sunday. For the single sample targets, each existing shoreline monitoring site is assigned an allowable number of exceedance days for two <u>three</u> time periods <u>as defined in Table 7-4.2a</u> (summer dry weather, and winter dry weather, and wet weather <u>[defined as days with 0.1 inch of rain or greater and the three</u></p>
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¹ The wave wash is defined as the point at which the storm drain or creek empties and the effluent from the storm drain initially mixes with the receiving ocean water.

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	<p>days following the rain event] as defined in Table 7-4.2a). (A separate amendment will address the allowable number of wet weather exceedance days.)</p> <p>The allowable number of exceedance days is set such that (1) bacteriological water quality at any site is at least as good as at a designated reference site within the watershed and (2) there is no degradation of existing shoreline bacteriological water quality.</p>
Source Analysis	<p>-With the exception of isolated sewage spills, dry weather urban runoff and stormwater runoff conveyed by storm drains and creeks is the primary source of elevated bacterial indicator densities to SMB beaches during dry weather. Limited natural runoff and groundwater may also potentially contribute to elevated bacterial indicator densities during winter dry weather. This is supported by the finding that historical monitoring data from the reference beach indicate no exceedances of the single sample targets during summer dry weather and on average only three percent exceedance during winter dry weather. Because the bacterial indicators used as targets in the TMDL are not specific to human sewage, stormwater runoff from undeveloped areas may also be a source of elevated bacterial indicator densities. For example, stormwater runoff from natural areas may convey fecal matter from wildlife and birds or bacteria from soil. This is supported by the finding that, at the reference beach, the probability of exceedance of the single sample targets during wet weather is 0.22.</p>

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<p><i>Loading Capacity</i></p>	<p>Studies show that bacterial degradation and dilution during transport from the watershed to the beach do not significantly affect bacterial indicator densities at SMB beaches. Therefore, the loading capacity is defined in terms of bacterial indicator densities, which is the most appropriate for addressing public health risk, and is equivalent to the numeric targets, listed above. <u>As the numeric targets must be met in the wave wash and throughout the day, no degradation allowance is provided.</u></p>
<p><i>Waste Load Allocations</i></p>	<p>Waste load allocations <u>assigned to municipal separate storm sewer system discharges</u> are expressed as the number of sample days at a shoreline monitoring site that may exceed the single sample targets identified under “Numeric Target.” Waste load allocations are expressed as allowable exceedance days because the bacterial density and frequency of single sample exceedances are the most relevant to public health protection.</p> <p>For each shoreline monitoring site and corresponding subwatershed, the allowable number of exceedance days is set for two <u>three</u> time periods. These two <u>three</u> periods are:</p> <ol style="list-style-type: none"> 1. summer dry weather (April 1 to October 31), and 2. winter dry weather (November 1 to March 31), and 3. <u>wet weather (year-round).</u> <p>The allowable number of exceedance days for a shoreline monitoring site for each time period is based on the lesser of two criteria (1) exceedance days in the designated reference system and (2) exceedance days based on historical bacteriological data at the monitoring site. This ensures that shoreline bacteriological water quality is at least as good as that of a largely undeveloped system and that there is no degradation of existing shoreline bacteriological water quality.²</p> <p>All responsible jurisdictions and responsible agencies³ within a subwatershed are jointly responsible for complying with the allowable number of exceedance days for each associated shoreline monitoring site identified in Table 7-4.2a below.</p> <p>The three Publicly Owned Treatment Works (POTWs)⁴ discharging to Santa Monica Bay are each given individual WLAs of zero (0) days of exceedance equal to the bacteriological objectives contained in Chapter</p>

² In order to fully protect public health, no exceedances are permitted at any shoreline monitoring location during summer dry weather (April 1 to October 31). In addition to being consistent with the two criteria, waste load allocations of zero (0) exceedance days are further supported by the fact that the California Department of Public Health Services has established minimum protective bacteriological standards – the same as the numeric targets in this TMDL – which, when exceeded during the period April 1 to October 31, result in posting a beach with a health hazard warning (California-Cal. Code of Regulations, title-tit. 17, §section 7958).

³ For the purposes of this TMDL, “responsible jurisdictions and responsible agencies” includes: (1) local agencies that are responsible for discharges from a publicly owned treatment works to the Santa Monica Bay watershed or directly to the Bay, (2) local agencies that are permittees or co-permittees on a municipal storm water separate storm sewer system permit covering areas within the Santa Monica Bay watershed management area, including any future permittees under a Phase II MS4 permit. (3) local or state agencies that have jurisdiction over a beach adjacent to Santa Monica Bay, and (4) the California Department of Transportation pursuant to its storm water permit.

⁴ Hyperion Wastewater Treatment Plant, Joint Water Pollution Control Plant, and Tapia Wastewater Reclamation Facility.

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	<p><u>3</u> during both summer dry weather, and winter dry weather, and wet weather.</p> <p><u>Discharges from general NPDES permits, general industrial storm water permits and general construction storm water permits are not expected to be a significant source of bacteria. Additionally, these discharges are not eligible for the reference system approach set forth in the implementation provisions for the bacteriological objectives in Chapter 3. Therefore, the waste load allocations for these discharges for all time periods are the bacteriological objectives contained in Chapter 3. Any future enrollees under a general NPDES permit, general industrial storm water permit or general construction storm water permit within the Santa Monica Bay watershed management area will also be subject to a WLA based on these bacteriological objectives.</u></p>
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<p><u>Load Allocations (for nonpoint sources)</u></p>	<p><u>Because all dry weather urban runoff and stormwater to SMB beaches is regulated as a point source, load allocations of zero days of exceedance are set in this TMDL. If a nonpoint source is directly impacting shoreline bacteriological quality and causing an exceedance of the numeric target(s), the permittee(s) under the municipal separate storm sewer system NPDES permits are not responsible through these permits. However, the jurisdiction or agency adjacent to the shoreline monitoring location may have further obligations as described under “Compliance Monitoring” below.</u></p>
<p>Implementation</p>	<p><u>This TMDL will be implemented in two-three phases over a 618-year period. The regulatory mechanisms used to implement the TMDL include, but are not limited to, the municipal separate storm sewer system NPDES permits (MS4 permits) covering areas within the Santa Monica Bay watershed management area, including any future Phase II MS4 permits, the Caltrans Stormwater Permit, the three NPDES permits for the POTWs, the authority contained in sections 13263, 13267 and 13383 of the Water Code, and regulations to be adopted pursuant to section 13291 of the Water Code. Each NPDES permit assigned a waste load allocation shall be reopened or amended at reissuance, in accordance with applicable laws, to incorporate the applicable waste load allocation(s) as a permit requirement.</u></p> <p><u>By July 15, 2006, summer dry-weather allowable exceedance days must be achieved. By November 1, 2009, winter dry-weather allowable exceedance days must be achieved.</u></p> <p><u>For those beach monitoring locations subject to the antidegradation provision, there shall be no increase in exceedance days during the implementation period above that estimated for the beach monitoring location in the critical year as identified in Table 7-4.2a.</u></p> <p><u>The implementation schedule for achieving the wet weather allocations shall be determined on the basis of the implementation plan(s), which must be submitted to the Regional Board by responsible jurisdictions and agencies by July 15, 2005 (see Table 7-4.3). Responsible jurisdictions and agencies must clearly demonstrate in the above-mentioned plan whether they intend to pursue an integrated water resources approach.⁵</u></p> <p><u>The subwatersheds associated with each beach monitoring location may include multiple responsible jurisdictions and responsible agencies. Therefore, a “primary jurisdiction,” defined as the jurisdiction</u></p>

⁵ An integrated water resources approach is one that takes a holistic view of regional water resources management by integrating planning for future wastewater, storm water, recycled water, and potable water needs and systems; focuses on beneficial re-use of storm water, including groundwater infiltration, at multiple points throughout a watershed; and addresses multiple pollutants for which Santa Monica Bay or its watershed are listed on the CWA section 303(d) List as impaired. Because an integrated water resources approach will address multiple pollutants, responsible jurisdictions can recognize cost-savings because capital expenses for the integrated approach will implement several TMDLs that address pollutants in storm water. An integrated water resources approach shall not only provide water quality benefits to the people of the Los Angeles Region, but it is also anticipated that an integrated approach will incorporate and enhance other public goals. These may include, but are not limited to, water supply, recycling and storage; environmental justice; parks, greenways and open space; and active and passive recreational and environmental education opportunities.

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	<p><u>comprising greater than fifty percent of the subwatershed land area, is identified for each subwatershed (see Table 7-4.2b). Nine primary jurisdictions are identified within the Santa Monica Bay watershed management area, each with a group of associated subwatersheds and beach monitoring locations. These are identified as “jurisdictional groups” (see Table 7-4.2b). The primary jurisdiction of each “jurisdictional group” shall be responsible for submitting the implementation plan described above, which will determine the implementation timeframe to achieve the wet weather allocations for the subwatershed. A jurisdictional group may change its primary jurisdiction by submitting a joint, written request, submitted by the current primary jurisdiction and the proposed primary jurisdiction, to the Executive Officer requesting a reassignment of primary responsibility. Two jurisdictional groups may also choose to change the assignment of monitoring locations between the two groups by submitting a joint, written request, submitted by the current primary jurisdiction and the proposed primary jurisdiction, to the Executive Officer requesting a reassignment of the monitoring location.</u></p> <p><u>Jurisdictional group(s) must achieve a 10% cumulative percentage reduction from the total wet weather exceedance-day reduction required for the group of beach monitoring locations by July 15, 2009, a 25% reduction July 15, 2013, and a 50% reduction by July 15, 2018.⁶</u></p> <p><u>The final implementation targets in terms of allowable wet-weather exceedance days must be achieved at each individual beach location no later than July 15, 2021. In addition, the geometric mean targets must be achieved for each individual beach location no later than July 15, 2021.</u></p> <p><u>The regulatory mechanisms used to implement the TMDL will include primarily the Los Angeles County Municipal Storm Water NPDES Permit, the Caltrans Storm Water Permit, the three NPDES permits for the POTWs, and the authority vested in the Executive Officer via 13267 of the Porter-Cologne Water Quality Control Act.</u></p> <p><u>Within 3 years of the effective date of the TMDL, summer dry weather allowable exceedance days and the rolling 30-day geometric mean targets must be achieved. Within 6 years of the effective date, winter dry weather allowable exceedance days and the rolling 30-day geometric mean targets must be achieved.</u></p>
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⁶ The interim allowable number of exceedance days for a jurisdictional group shall be calculated as follows: (the difference of [the sum of the estimated number of wet weather exceedance days in the critical year for the sites within the jurisdictional group] and [the sum of the allowable number of wet weather exceedance days for the sites within the jurisdictional group]) x 90% = 10% interim milestone (x 75% = 25% interim milestone; and x 50% = 50% interim milestone), where the estimated number of wet weather exceedance days is based on the exceedance rate from the November 2004-October 2010 shoreline monitoring dataset for each compliance monitoring site.

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<p><i>Margin of Safety</i></p>	<p><u>The TMDL is set at levels that are exactly equivalent to the applicable water quality standards along with the proposed reference system/antidegradation implementation provisions set forth in Chapter 3.</u></p> <p><u>An implicit margin of safety is included in the supporting water quality model by assuming no dilution between the storm drain and the wave wash, the point of compliance. This is a conservative assumption since studies have shown that there is a high degree of variability in the amount of dilution between the storm drain and wave wash temporally, spatially and among indicators, ranging from 100% to 0%. WLA's of zero days of exceedance during the summer include an implicit margin of safety. The WLA's of a maximum of three days of exceedance during winter dry weather include an implicit margin of safety because the maximum allowable days of exceedance are based on samples collected 50 yards downcurrent of the freshwater outlet at the reference beach. Findings from a bacterial dispersion study of selected freshwater outlets show that there is typically significant dilution between the freshwater outlet, the wave wash (the compliance point), and a point 50 yards downcurrent.</u></p>
<p><i>Seasonal Variations and Critical Conditions</i></p>	<p><u>Seasonal variations are addressed by developing separate waste load allocations for three time periods (summer dry weather, winter dry weather and wet weather,) based on public health concerns and observed natural background levels of exceedance of bacterial indicators. Seasonal variations are addressed by developing separate waste load allocations for two time periods (summer dry weather and winter dry weather) based on public health concerns and observed natural background levels of exceedance of bacterial indicators.</u></p> <p>The critical <u>dry-weather</u> period for this <u>dry weather</u>-bacteria TMDL is during winter months, when historic shoreline monitoring data for the reference beach indicate that the single sample bacteria objectives are exceeded on average <u>310</u>% of the dry weather days sampled.</p> <p><u>The critical condition for this bacteria TMDL is wet weather generally, when historic shoreline monitoring data for the reference beach indicate that the single sample bacteria objectives are exceeded on 22% of the wet-weather days sampled. To more specifically identify a critical condition within wet weather in order to set the allowable exceedance days shown in Tables 7-4.2a and 7-4.2b, the 90th percentile 'storm year'⁷ in terms of wet days is used as the reference year. Selecting the 90th percentile year avoids a situation where the reference beach is frequently out of compliance.</u></p>

⁷ For purposes of this TMDL, a 'storm year' means November 1 to October 31. The 90th percentile storm year was 1993 with 75 wet days at the LAX meteorological station.

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<u>Compliance Monitoring</u>	<p><u>Responsible jurisdictions and agencies as defined in Footnote 2 shall conduct daily or systematic weekly sampling in the wave wash at all major drains⁸ and creeks or at existing monitoring stations at beaches without storm drains or freshwater outlets to determine compliance.⁹ At all locations, samples shall be taken at ankle depth and on an incoming wave. At locations where there is a freshwater outlet, during wet weather, samples should be taken as close as possible to the wave wash, and no further away than 10 meters down current of the major drain or outlet.¹⁰ At locations where there is a freshwater outlet, samples shall be taken when the freshwater outlet is flowing into the surf zone.</u></p> <p><u>If the number of exceedance days exceeds the allowable number of exceedance days for a target beach at the final implementation deadline, the responsible jurisdictions and agencies within the contributing subwatershed shall be considered out-of-compliance with the TMDL. Responsible jurisdictions or agencies shall not be deemed out of compliance with the TMDL if the investigation described in the paragraph below demonstrates that bacterial sources originating within the jurisdiction of the responsible agency have not caused or contributed to the exceedance.</u></p> <p><u>If a single sample shows the discharge or contributing area to be out of compliance, the Regional Board may require, through permit requirements or the authority contained in Water Code section 13267, daily sampling in the wave wash or at the existing open shoreline monitoring location (if it is not already) until all single sample events meet bacteria water quality objectives. Furthermore, if a beach location is out-of-compliance as determined in the previous paragraph, responsible agencies shall initiate an investigation, which at a minimum shall include daily sampling in the wave wash or at the existing open shoreline monitoring location until all single sample events meet bacteria water quality objectives. If bacteriological water quality objectives are exceeded in any three weeks of a four-week period when weekly sampling is performed, or, for areas where testing is done more than once a week, 75% of testing days produce an exceedance of bacteria water quality objectives, the responsible agencies shall conduct a source investigation of the subwatershed(s) pursuant to protocols established under Water Code 13178. If a beach location without a freshwater outlet is out-of-compliance or if the outlet is diverted or being treated, the adjacent municipality, County agency(s), or State or federal agency(s) shall be responsible for conducting the investigation and shall submit its findings to the Regional Board to facilitate the Regional Board exercising further authority to regulate the source of the exceedance in conformance with the Cal. Water Code and Statewide Policy for Implementation and Enforcement of the Nonpoint Source Control Program.</u></p>
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⁸ Major drains are major municipal separate storm sewer system outfalls as defined in 40 CFR 122.26(b)(5) are those that are publicly owned and have measurable flow to the beach during dry weather.

⁹ The frequency of sampling (i.e., daily versus weekly) will shall be at the discretion of the implementing agencies determined in the monitoring and reporting programs of the permits through which the waste load allocations are implemented. However, the number of sample days that may exceed the objectives will be scaled accordingly.

¹⁰ Safety considerations during wet weather may preclude taking a sample in the wave wash.

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Note: The complete staff report for the TMDL is available for review upon request.

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Table 7-4.3. Santa Monica Bay Beaches Bacteria TMDL (~~Dry Weather Only~~): Significant Dates

Date	Action
<p>120 days after the effective date of the TMDL <u>November 12, 2003</u></p>	<p>Pursuant to a request from the Regional Board, Responsible-responsible jurisdictions and responsible agencies must submit coordinated shoreline monitoring plan(s); <u>to be approved by the Executive Officer</u>, including a list of new sites* or sites relocated to the wave wash at which time responsible jurisdictions and responsible agencies will select between daily and weekly shoreline sampling.</p>
<p>120 days after the effective date of the TMDL <u>November 12, 2003</u></p>	<p>Responsible jurisdictions and responsible agencies must identify and provide documentation on 342 potential discharges to Santa Monica Bay beaches listed in Appendix C of the TMDL Staff Report dated January 11, 2002. Documentation must include a Report of Waste Discharge (ROWD) where necessary.</p> <p>Responsible jurisdictions and responsible agencies must identify and provide documentation on potential discharges to the Area of Special Biological Significance (ASBS) in northern Santa Monica Bay from Latigo Point to the County line.</p> <p>Cessation of the discharges into the ASBS shall be required in conformance with the California Ocean Plan.</p>
<p><u>March 15, 2005</u></p>	<p><u>Responsible jurisdictions and agencies shall provide a draft written report to the Regional Board outlining how each intends to cooperatively (through Jurisdictional Groups) achieve compliance with the wet weather allocations. The report shall include implementation methods, an implementation schedule, and proposed milestones.</u></p>
<p>July 15, 2005 <u>2 years after effective date of TMDL</u></p>	<p><u>Responsible jurisdictions and agencies shall provide a written report to the Regional Board outlining how each intends to cooperatively (through Jurisdictional Groups) achieve compliance with the wet weather allocations. The report shall include implementation methods, an implementation schedule, and proposed milestones. Under no circumstances shall final compliance dates to achieve wet weather allocations exceed 10 years for non-integrated approaches or 18 years for integrated water resources approaches. Regional Board staff shall bring to the Regional Board the aforementioned plans as soon as possible for consideration. Re-open TMDL to re-evaluate allowable winter dry weather exceedance days based on additional data on bacterial indicator densities in the wave wash, a re-evaluation of the reference system selected to set allowable exceedance levels, and a re-evaluation of the reference year used in the calculation of allowable</u></p>

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	exceedance days.
3 years after effective date of the TMDL <u>July 15, 2006</u>	Achieve compliance with allowable exceedance days as set forth in Table 7-4.2a and rolling 30 day geometric mean targets during summer dry weather (April 1 to October 31).
6 years after effective date of the TMDL <u>November 1, 2009</u>	Achieve compliance with allowable exceedance days as set forth in Table 7-4.2a and rolling 30 day geometric mean targets during winter dry weather (November 1 to March 31).
<u>Six months from effective date of TMDL revised by Resolution No. R12-XXX</u>	<u>Responsible jurisdictions and agencies shall submit a revised bacteria water quality monitoring plan to address changes in the calculation and reporting of attainment of the geometric mean targets.</u>
<u>July 15, 2009</u>	<u>Each defined jurisdictional group must achieve a 10% cumulative percentage reduction from the total wet weather exceedance-day reductions required for that jurisdictional group as identified in Table 7-4.2b.</u>
<u>July 15, 2013</u>	<u>Each defined jurisdictional group must achieve a 25% cumulative percentage reduction from the total wet weather exceedance-day reductions required for that jurisdictional group as identified in Table 7-4.2b.</u>
<u>July 15, 2018</u>	<u>Each defined jurisdictional group must achieve a 50% cumulative percentage reduction from the total wet weather exceedance-day reductions required for that jurisdictional group as identified in Table 7-4.2b.</u>
<u>July 15, 2021</u>	<u>Final implementation targets in terms of allowable wet-weather exceedance days must be achieved at each individual beach as identified in Table 7-4.2a. In addition, the geometric mean targets must be achieved for each individual beach location.</u>

Notes: *For those subwatersheds without an existing shoreline monitoring site, responsible jurisdictions and agencies must establish a shoreline monitoring site if there is measurable flow from a creek or major drain to the beach during dry weather.

**Table 7-4.2a: Santa Monica Bay Beaches Bacteria TMDL Implementation Schedule:
Allowable Number of Days that May Exceed Any Single Sample Bacterial Indicator Target for Existing Shoreline Monitoring Stations**

Compliance Deadline			15-Jul-06		1-Nov-09		15-Jul-21	
Station ID	Location Name	Subwatershed	Summer Dry Weather [^] Apr. 1-Oct. 31		Winter Dry Weather [^] Nov. 1-Mar. 31		Wet Weather Year-round	
			Daily sampling (No. days)	Weekly sampling (No. days)	Daily sampling (No. days)	Weekly sampling (No. days)	Daily sampling (No. days)	Weekly sampling (No. days)
SMB 1-1	Leo Carrillo Beach (REFERENCE BEACH)	Arroyo Sequit Canyon	0	0	9	2	17	3
SMB 1-2	El Pescador State Beach	Los Alisos Canyon	0	0	1	1	5	1
SMB 1-3	El Matador State Beach	Encinal Canyon	0	0	1	1	3	1
SMB 1-4	Trancas Creek	Trancas Canyon	0	0	9	2	17	3
SMB 1-5	Zuma Creek	Zuma Canyon	0	0	9	2	17	3
SMB 1-6	Walnut Creek	Ramirez Canyon	0	0	9	2	17	3
SMB 1-7	Ramirez Creek	Ramirez Canyon	0	0	9	2	17	3
SMB 1-8	Escondido Creek	Escondido Canyon	0	0	9	2	17	3
SMB 1-9	Latigo Canyon Creek	Latigo Canyon	0	0	9	2	17	3
SMB 1-10	Solstice Creek	Solstice Canyon	0	0	5	1	17	3
SMB 1-11	Wave wash of unnamed creek on Puerco Beach	Corral Canyon	0	0	9	2	17	3
SMB 1-12	Marie Canyon Storm Drain on Puerco Beach	Corral Canyon	0	0	9	2	17	3
SMB 1-13	Sweetwater Creek on Carbon Beach	Carbon Canyon	0	0	9	2	17	3
SMB 1-14	Las Flores Creek	Las Flores Canyon	0	0	6	1	17	3
SMB 1-15	Big Rock Beach at 19948 Pacific Coast Hwy	Piedra Gorda Canyon	0	0	9	2	17	3
SMB 1-16	Pena Creek	Pena Canyon	0	0	3	1	14	2
SMB 1-17	Tuna Canyon Creek	Tuna Canyon	0	0	7	1	12	2
SMB 1-18	Topanga Creek	Topanga Canyon	0	0	9	2	17	3
SMB 4-1	San Nicholas Canyon Creek	Nicholas Canyon	0	0	4	1	14	2
SMB 2-1	Castlerock (Parker Mesa) Storm Drain	Castlerock Canyon	0	0	9	2	17	3
SMB 2-2	Santa Ynez Storm Drain	Santa Ynez Canyon	0	0	9	2	17	3
SMB 2-3	Will Rogers State Beach at 17200 Pacific Coast Hwy.	Santa Ynez Canyon	0	0	9	2	17	3
SMB 2-4	Pulga Canyon storm drain	Pulga Canyon	0	0	9	2	17	3
SMB 2-5	Temescal Storm Drain	Pulga Canyon	0	0	9	2	17	3
SMB 2-6	Bay Club Storm Drain	Santa Ynez Canyon	0	0	9	2	17	3
SMB 2-7	Santa Monica Canyon, Will Rogers State Beach	Santa Monica Canyon	0	0	9	2	17	3
SMB 2-8	Venice Pier, Venice	Ballona	0	0	9	2	17	3
SMB 2-9	Topsail Street extended	Ballona	0	0	9	2	17	3
SMB 2-10	Dockweiler State Beach at Culver Bl. Storm Drain	Dockweiler	0	0	9	2	17	3
SMB 2-11	North Westchester Storm Drain	Dockweiler	0	0	0	0	17	3
SMB 2-12	World Way extended	Dockweiler	0	0	9	2	17	3
SMB 2-13	Imperial Highway storm drain (Dockweiler)	Dockweiler	0	0	4	1	17	3
SMB 2-14	Opposite Hyperion Plant, 1 mile	Dockweiler	0	0	9	2	17	3
SMB 2-15	Grand Avenue Storm Drain	Dockweiler	0	0	9	2	17	3
SMB 3-1	Montana Ave. Storm Drain	Santa Monica	0	0	9	2	17	3
SMB 3-2	Wilshire Blvd., Santa Monica	Santa Monica	0	0	9	2	17	3
SMB 3-3	Santa Monica Municipal Pier at storm drain	Santa Monica	0	0	9	2	17	3
SMB 3-4	Santa Monica Beach at Pico/Kenter storm drain	Santa Monica	0	0	9	2	17	3
SMB 3-5	Ashland Av. storm drain (Venice)	Santa Monica	0	0	9	2	17	3
SMB 3-6	Rose Ave. Storm Drain on Venice Beach	Santa Monica	0	0	6	1	17	3
SMB 3-7	Venice City Beach at Brooks Storm Drain (projection of Brooks Ave.)	Ballona	0	0	9	2	17	3
SMB 3-8	Venice Pavilion at projection of Windward Av.	Ballona	0	0	9	2	17	3
SMB 3-9	Strand Street extended	Santa Monica	0	0	9	2	17	3
SMB 5-1	Manhattan State Beach at 40th Street (El Porto Beach)	Hermosa	0	0	1	1	4	1
SMB 5-2	Terminus of 28th Street Drain in Manhattan Beach	Hermosa	0	0	9	2	17	3
SMB 5-3	Manhattan Beach Pier	Hermosa	0	0	3	1	6	1
SMB 5-4	Near 26th Street on Hermosa Beach	Hermosa	0	0	3	1	12	2
SMB 5-5	Hermosa Beach Pier	Hermosa	0	0	2	1	8	2
SMB 6-1	Heronado Storm Drain	Redondo	0	0	9	2	17	3
SMB 6-2	Redondo Municipal Pier - 100 yards south	Redondo	0	0	3	1	14	2
SMB 6-3	4' x 4' outlet at projection of Sapphire Street	Redondo	0	0	5	1	17	3
SMB 6-4	120' north of Topaz groin	Redondo	0	0	9	2	17	3
SMB 6-5	Storm Drain at Projection of Avenue I	Redondo	0	0	4	1	11	2
SMB 6-6	Malaga Cove, Palos Verdes Estates	Palos Verdes	0	0	1	1	3	1
SMB 7-1	Malaga Cove	Palos Verdes	0	0	1	1	14	2
SMB 7-2	Bluff Cove	Palos Verdes	0	0	1	1	0	0
SMB 7-3	Long Point	Palos Verdes	0	0	1	1	5	1
SMB 7-4	Abalone Cove	Palos Verdes	0	0	0	0	1	1
SMB 7-5	Portuguese Bend Cove	Palos Verdes	0	0	1	1	2	1
SMB 7-6	Royal Palms	Palos Verdes	0	0	1	1	6	1
SMB 7-7	At storm drain between White Point and Wilder Annex	Palos Verdes	0	0	3	1	17	3
SMB 7-8	Wilder Annex	Palos Verdes	0	0	1	1	2	1
SMB 7-9	Outer Cabrillo Beach	Palos Verdes	0	0	1	1	3	1
SMB BC-1	Ballona Creek entrance (Dockweiler)	Dockweiler	0	0	9	2	17	3
SMB MC-1	Malibu Point, Malibu Colony Dr.	Malibu Canyon	0	0	9	2	17	3
SMB MC-2	Surfrider Beach (breach point of Malibu Lagoon)	Malibu Canyon	0	0	9	2	17	3
SMB MC-3	Malibu Pier on Carbon Beach	Malibu Canyon	0	0	9	2	17	3

Notes: The allowable number of exceedance days during winter dry weather is calculated based on the 10th percentile year in terms of non-wet days at the LAX meteorological station. The number of allowable exceedances during winter dry weather is based on the lesser of (1) the reference system or (2) existing levels of exceedance based on historical shoreline data. [^]Dry weather days are defined as those with <0.1 inch of rain and those days not less than 3 days after a rain day. Rain days are defined as those with >=0.1 inch of rain. Detailed descriptions of the sampling locations are provided in the Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan.

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Table 7-4.62b. Interim Wet-Weather Compliance Targets by Jurisdictional Group

Jurisdiction Group	Primary Jurisdiction	Additional Responsible Jurisdictions & Agencies	Subwatershed(s)	Monitoring Site(s) ^{***}	Interim Compliance Targets as Maximum Allowable Exceedance Days during Wet Weather ^{***}		
					10% Reduction Milestone	25% Reduction Milestone	50% Reduction Milestone
1	County of Los Angeles	Caltrans Malibu City of Los Angeles (Topanga only) Calabasas (Topanga only)	Arroyo Sequit	DHS-010 SMB 1-1	174 224See equation 1 below	145 242See equation 2 below	107 197See equation 3 below
			Carbon Canyon	none SMB 1-13			
			Corral Canyon	DHS-005a SMB 1-11; SMB 1-12			
			Encinal Canyon	DHS-010a [#] SMB 1-3			
			Escondido Canyon	none SMB 1-8			
			Las Flores Canyon	DHS-001a SMB 1-14			
			Latigo Canyon	DHS-005 SMB 1-9			
			Los Alisos Canyon	none SMB 1-2			
			Pena Canyon	none SMB 1-16			
			Piedra Gorda Canyon	DHS-004 SMB 1-15			
			Ramirez Canyon	DHS-006 SMB 1-6; SMB 1-7			
			Solstice Canyon	none SMB 1-10			
			Topanga Canyon	S2 SMB 1-18			
			Trancas Canyon	DHS-008 SMB 1-4			
Tuna Canyon	none SMB 1-17						
Zuma Canyon	DHS-007 SMB 1-5						
2	City of Los Angeles	Caltrans County of Los Angeles El Segundo (DW only) Manhattan Beach (DW only) Culver City (MDR only) Santa Monica	Castlerock	none SMB 2-1	195 Also 342Ssee equation 1 below	162 Also 324Ssee equation 2 below	119 Also 294Ssee equation 3 below
			Dockweiler	S11, DHS-110, S12, DHS-111, DHS-112 SMB 2-10; SMB 2-11; SMB 2-12; SMB 2-13; SMB 2-14; SMB 2-15			
			Marina del Rey Venice Beach	DHS-107, S8[#], DHS-108, DHS-109 SMB 2-8; SMB 2-9			
			Pulga Canyon	S3, DHS-103 SMB 2-4; SMB 2-5			

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Jurisdiction Group	Primary Jurisdiction	Additional Responsible Jurisdictions & Agencies	Subwatershed(s)	Monitoring Site(s) ^{***}	Interim Compliance Targets as Maximum Allowable Exceedance Days during Wet Weather ^{***}		
					10% Reduction Milestone	25% Reduction Milestone	50% Reduction Milestone
			Santa Monica Canyon	S4 SMB 2-7			
			Santa Ynez Canyon	DHS 101, DHS 102SMB 2-2; SMB 2-3; SMB 2-6			
3	Santa Monica	Caltrans City of Los Angeles County of Los Angeles	Santa Monica	DHS 104a, DHS 104, DHS 105, S5, S6, DHS 106, DHS 106a, S7SMB 3-1; SMB 3-2; SMB 3-3; SMB 3-4; SMB 3-5; SMB 3-6; SMB 3-7; SMB 3-8; SMB 3-9	134 Also s257See equation 1 below	111 Also 237Ssee equation 2 below	82 Also 203Ssee equation 3 below
4	Malibu	Caltrans County of Los Angeles	Nicholas Canyon	DHS 009#SMB 4-1	44N/A	44N/A	44N/A
5	Manhattan Beach	Caltrans El Segundo Hermosa Beach Redondo Beach <u>County of Los Angeles</u>	Hermosa	S13 [#] , S14 [#] , DHS 114 [#] , S15 [#] SMB 5-1; SMB 5-2; SMB 5-3; SMB 5-4; SMB 5-5	31 Also 29Ssee equation 1 below	26 Also 29Ssee equation 2 below	19 Also 29Ssee equation 3 below
6	Redondo Beach	Caltrans Hermosa Beach Manhattan Beach Torrance County of Los Angeles	Redondo	DHS 115, S16 [#] , DHS 116, S17 [#] SMB 6-1; SMB 6-2; SMB 6-3; SMB 6-4; SMB 6-5; SMB 6-6	33 Also s58See equation 1 below	27 Also 57Ssee equation 2 below	20 Also 56Ssee equation 3 below

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Jurisdiction Group	Primary Jurisdiction	Additional Responsible Jurisdictions & Agencies	Subwatershed(s)	Monitoring Site(s) ^{***}	Interim Compliance Targets as Maximum Allowable Exceedance Days during Wet Weather ^{***}		
					10% Reduction Milestone	25% Reduction Milestone	50% Reduction Milestone
7	Rancho Palos Verdes	Caltrans City of Los Angeles Palos Verdes Estates Redondo Beach Rolling Hills Rolling Hills Estates Torrance County of Los Angeles	Palos Verdes Peninsula	S48[#], LACSDM[#], LACSDB[#], LACSD1[#], LACSD2[#], LACSD3[#], LACSD5[#], LACSD6[#], LACSD7[#] SMB 7-1; SMB 7-2; SMB 7-3; SMB 7-4; SMB 7-5; SMB 7-6; SMB 7-7; SMB 7-8; SMB 7-9	29 Also 36 See equation 1 below	24 Also 36 See equation 2 below	18 Also 36 See equation 3 below
8	City of Los Angeles	Beverly Hills Culver City Inglewood West Hollywood Santa Monica County of Los Angeles Caltrans	Ballona	SMB BC-1	N/A	N/A	N/A
9	County of Los Angeles	County of Ventura Thousand Oaks Agoura Hills Calabasas Westlake Village Malibu Caltrans Hidden Hills	Malibu	SMB MC-1 SMB MC-2 SMB MC-3	N/A	N/A	N/A

Notes: ~~Monitoring sites are those established in the Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan (April 2004). *Interim milestones will be re-calculated during the revision of the TMDL based on shoreline monitoring data collected from the wave wash and a re-evaluation of the most appropriate reference system and reference year. Furthermore, if an integrated water resources approach is pursued, as demonstrated by the implementation plans to be submitted to the Regional Board by the primary jurisdictions within two years of the effective date of the TMDL, the interim milestones will be re-evaluated on the basis of the implementation plan, considering planning, engineering and construction tasks. **Interim milestones for the Malibu and Ballona shoreline monitoring locations will be identified in subsequent bacteria TMDLs to be developed for these two watersheds. ***Monitoring sites are those shoreline locations currently monitored by the City of Los Angeles, County Sanitation Districts of Los Angeles County, and the Los Angeles County Department of Health Services at the time of adoption of this TMDL by the Regional Board. This list~~

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~~does not preclude the establishment of additional monitoring stations. For those subwatersheds without an existing shoreline monitoring site, responsible jurisdictions and agencies must establish a shoreline monitoring site if there is measurable flow from a creek or publicly owned storm drain to the beach during dry weather.~~[#] For those beach monitoring locations subject to the antidegradation provision, there shall be no increase in exceedance days during the implementation period above that estimated for the beach monitoring location in the critical year as identified in Table 7-4. 52a. Interim compliance targets expressed as the maximum allowable wet weather exceedance days by Jurisdictional Group shall be calculated as follows:

Equation 1: 10% Reduction Milestone = $[\Sigma (\text{estimated number of wet weather exceedance days in the critical year for each site within the jurisdictional group}) - \Sigma (\text{allowable number of wet weather exceedance days for each site within the jurisdictional group})] \times 0.9$

Equation 2: 25% Reduction Milestone = $[\Sigma (\text{estimated number of wet weather exceedance days in the critical year for each site within the jurisdictional group}) - \Sigma (\text{allowable number of wet weather exceedance days for each site within the jurisdictional group})] \times 0.75$

Equation 3: 50% Reduction Milestone = $[\Sigma (\text{estimated number of wet weather exceedance days in the critical year for each site within the jurisdictional group}) - \Sigma (\text{allowable number of wet weather exceedance days for each site within the jurisdictional group})] \times 0.5$

Where the estimated number of wet weather exceedance days in the critical year for each compliance monitoring site is calculated as the product of the exceedance rate from the November 2004-October 2010 shoreline monitoring dataset and the number of wet days in the reference year (75 wet weather days):